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Apl'n No. 10/650,038

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1 - 8. (Canceled)

9. (Currently Amended) A microscopy system for visualizing a fluorescence of a fluorescent substance in an object to be inspected, comprising:

a microscopy optics having

a first beam path for optically imaging an object region onto a light detecting component of a first camera for generating first image data representing images of the object region with light including wavelengths of a first wavelength range comprising a fluorescent emission wavelength of the fluorescent substance, and

a second beam path for providing a magnified first representation of the object region, wherein the first representation represents images of the object regions with light including wavelengths of a second wavelength range comprising at least visible light;

a memory for storing a set of first image data detected by the first camera during at least a time duration, the first set of image data representing a first time series of images of the object region for the time duration;

a display system; and

a controller for accessing the stored set of first image data from the memory, the controller selecting a subset of image data from the first set of image data, the subset representing a second time series of images of the object region selected from the first time series of images of the object region, the second time series of images of the object region being fewer in number than the first time series of images of the object region, and for the controller supplying plural second representations generated from at least a subseries the second time series of images of the stored set of first image data to the

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Apl'n No. 10/650,038

display system so as to cause the display system to sequentially display the plural second representations generated from ~~at least the subseries~~ the second time series of images of the stored set of first image data such that the plural second representations are displayed in superposition with the first representation for observation by a user.

10. (Currently Amended) A microscopy system for visualizing a fluorescence of a fluorescent substance in an object to be inspected, comprising:

a microscopy optics having

a first beam path for optically imaging an object region onto a light detecting component of a first camera for generating first image data representing images of the object region with light including wavelengths of a first wavelength range comprising a fluorescent emission wavelength of the fluorescent substance, and

a second beam path for providing a magnified first representation of the object region, wherein the first representation represents images of the object regions with light including wavelengths of a second wavelength range comprising at least visible light;

a memory for storing a set of first image data detected by the first camera during ~~at least a time duration, the first set of image data representing a first time series of~~ images of the object region for the time duration;

a display system; and

a controller for accessing the stored set of first image data from the memory, ~~the controller selecting a subset of image data from the first set of image data, the subset representing a second time series of images of the object region selected from the first time series of images of the object region, the second time series of images of the object region being fewer in number than the first time series of images of the object region, and for the controller supplying plural second representations generated from at least a subseries~~ the second time series of images of the stored set of first image data to the display system so as to cause the display system to sequentially display the plural second representations generated from ~~at least the subseries~~ the second time series of images of

Apl'n No. 10/650,038

the stored set of first image data such that the plural second representations are displayed in superposition with the first representation for observation by a user,

wherein the controller is configured to select the subseries subset of image data of the set of first image data from the set of first image data based on intensities of the plural images represented by the first image data.

11. (Currently Amended) A microscopy system for visualizing a fluorescence of a fluorescent substance in an object to be inspected, comprising:

a microscopy optics having

a first beam path for optically imaging an object region onto a light detecting component of a first camera for generating first image data representing images of the object region with light including wavelengths of a first wavelength range comprising a fluorescent emission wavelength of the fluorescent substance, and

a second beam path for providing a magnified first representation of the object region, wherein the first representation represents images of the object regions with light including wavelengths of a second wavelength range comprising at least visible light;

a memory for storing a set of first image data detected by the first camera during at least a time duration, the first of image data representing a first time series of images of the object region for the time duration;

a display system; and

a controller for accessing the stored set of first image data from the memory, the controller selecting a subset of image data from the first set of image data, the subset representing a second time series of images of the object region selected from the first time series of images of the object region, the second time series of images of the object region being fewer in number than the first time series of images of the object region, and for the controller supplying plural second representations generated from at least a subseries the second time series of images of the stored set of first image data to the display system so as to cause the display system to sequentially display the plural second representations generated from at least the subseries the second time series of images of

Apl'n No. 10/650,038

the stored set of first image data such that the plural second representations are displayed in superposition with the first representation for observation by a user; and

wherein the [[a]] controller is configured for selecting the ~~subseries~~ subset of image data from the set of first image data based on differences between intensities of the images represented by the first image data ~~of the first set~~.

12 - 29. (Canceled)

30. (Previously Presented) The microscopy system according to claim 9, wherein the second beam path comprises at least one ocular for representing the magnified first representation of the object region.

31. (Previously Presented) The microscopy system according to claim 30, wherein the display system is further configured to superimpose the plural second representations with the second beam path directed to the ocular.

32. (Previously Presented) The microscopy system according to claim 9, wherein the first beam path comprises at least one light detecting component of a second camera for generating second image data representing images of the object region with visible light, and wherein the display system is further configured to display a representation of the second image data.

33, 34. Canceled

35. (Currently Amended) A microscopy method of visualizing a fluorescence of an object to be inspected, the method comprising:

displaying a magnified first representation of the object for observation by a user, wherein the fluorescence of the object is substantially not visible in the first representation;

detecting a first time series of plural fluorescent light images of the object during a time period;

Apl'n No. 10/650,038

storing image data corresponding to the first time series of plural fluorescent light images in a memory;

accessing the stored image data corresponding to the first time series of plural fluorescent light images from the memory; and

selecting a subset of image data from the stored image data, the subset of image data representing a second time series of plural fluorescent light images of the object selected from the first time series of plural fluorescent light images of the object; the second time series of plural fluorescent light images of the object being fewer in number than the first time series of plural fluorescent light images of the object; and

displaying the second time series of plural fluorescent light images of the object generated from the accessed image data after the time period has lapsed such that the second time series of plural fluorescent light images is visible for the user and superimposed with the magnified first representation of the object.

36 - 39. Canceled

40. (Currently Amended) A method of treating an aneurysm of a patient, the method comprising:

clipping an aneurysm sac of the aneurysm using a clip;

injecting indocyanine green into the patient;

detecting a first time series of plural fluorescence images of at least one artery adjacent to the clipped aneurysm;

storing image data corresponding to the first time series of plural fluorescent light images in a memory;

accessing the stored image data corresponding to the first time series of plural fluorescent light images from the memory;

selecting a subset of image data from the stored image data, the subset of image data representing a second time series of plural fluorescent light images of the object selected from the first time series of plural fluorescent light images of the object; the

Ap'l'n No. 10/650,038

second time series of plural fluorescent light images of the object being fewer in number than the first time series of plural fluorescent light images of the object;

generating a visible light image of an object region;

displaying the second time series of plural fluorescent light images generated from the accessed image data such that the second time series of plural fluorescent light images is visible for the user and superimposed with the visible light image of the object region;

assessing vascular blood flow of the at least one artery based on the second time series of plural fluorescent light images;

assessing whether the indocyanine green accumulates in the aneurysm sac based on the second time series of plural fluorescent light images; and

assessing a complete blocking of the aneurysm sac with the clip if the indocyanine green does not accumulate in the aneurysm sac.

41. (Canceled)

42. (Canceled)

43. (Previously Presented) The microscopy system of claim 9, wherein the fluorescent substance comprises indocyanine green.

44-52. (Canceled)

53. (Previously Presented) The microscopy system according to claim 10, wherein the second beam path comprises at least one ocular for representing the magnified first representation of the object region.

Apl'n No. 10/650,038

54. (Previously Presented) The microscopy system according to claim 53, wherein the display system is further configured to superimpose the plural second representations with the second beam path directed to the ocular.

55. (Previously Presented) The microscopy system according to claim 10, wherein the first beam path comprises at least one light detecting component of a second camera for generating second image data representing images of the object region with visible light, and wherein the display system is further configured to display a representation of the second image data.

56. (Previously Presented) The microscopy system of claim 10, wherein the fluorescent substance comprises indocyanine green.

57-65. (Canceled)

66. (Previously Presented) The microscopy system according to claim 11, wherein the second beam path comprises at least one ocular for representing the magnified first representation of the object region.

67. (Previously Presented) The microscopy system according to claim 66, wherein the display system is further configured to superimpose the plural second representations with the second beam path directed to the ocular.

Apl'n No. 10/650,038

68. (Previously Presented) The microscopy system according to claim 11, wherein the first beam path comprises at least one light detecting component of a second camera for generating second image data representing images of the object region with visible light, and wherein the display system is further configured to display a representation of the second image data.

69. (Previously Presented) The microscopy system of claim 11, wherein the fluorescent substance comprises indocyanine green.

70-78. (Canceled)

79. (Currently Amended) The method of claim 35, wherein the displaying the ~~recorded- second time~~ series of plural fluorescent light images of the ~~object, object~~ comprises the repeatedly displaying the ~~recorded- second time~~ series of plural fluorescent light images.

80. (Currently Amended) The microscopy system of claim 9, wherein the controller is configured to cause the display system to repeatedly display the ~~series of plural second representations generated from at least the subseries of the stored set of first~~ the subset of image data in sequence and in superposition with the first representation.

81. (Currently Amended) The microscopy system of claim 10, wherein the controller is configured to cause the display system to repeatedly display the ~~series of plural second~~

Apl'n No. 10/650,038

representations generated from ~~at least the subseries of the stored set of first~~ the subset of image data in sequence and in superposition with the first representation.

82. (Currently Amended) The microscopy system of claim 11, wherein the controller is configured to cause the display system to repeatedly display the ~~series of~~ plural second representations generated from ~~at least the subseries of the stored set of first~~ the subset of image data in sequence and in superposition with the first representation.

83. (Currently Amended) The method of claim 35, comprising repeatedly displaying in sequence the series of plural fluorescent light images generated from the subset of image data accessed from the memory in superposition with the magnified first representation.

84. (Currently Amended) The method of claim 40, comprising repeatedly displaying in sequence the series of plural fluorescent light images generated from the subset of image data accessed from the memory in superposition with the visible light image of the object region.

85. (New) The microscopy system of claim 9, comprising a filter disposed in the first beam path upstream of the first camera, wherein the filter is substantially non-transmissive at wavelengths below 810 nm and is substantially transmissive at wavelengths above 810 nm.